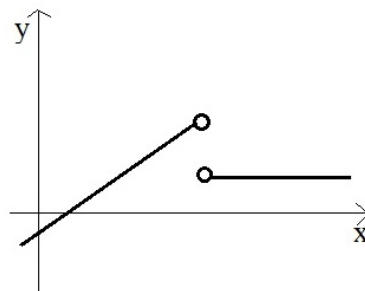
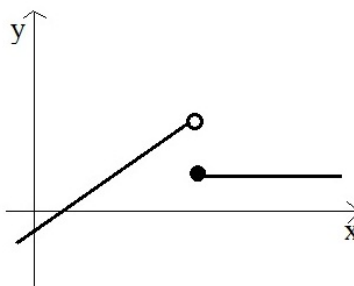
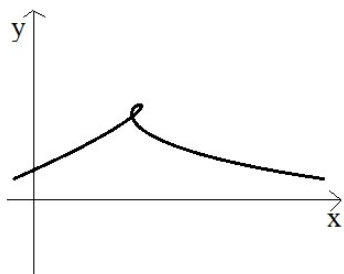


# Math 115

## Worksheet Section 1.1

1. 1. Which of the following objects represent functions?
- the rule that sends every non-zero number to its square and sends 0 to 1
- the rule that sends every number to 42



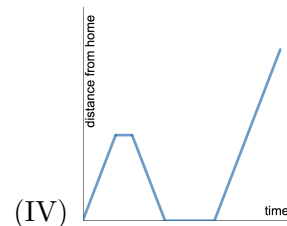
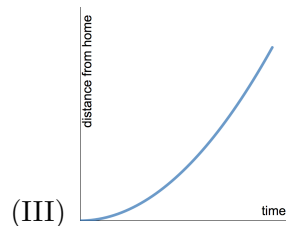
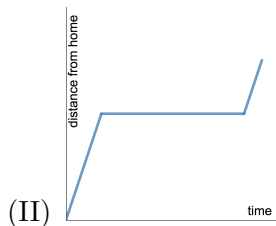
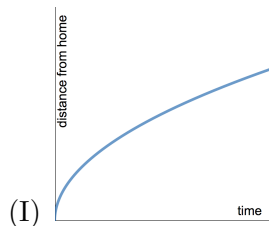
$x$	$y$
1	5
1	2
2	3
3	4

$x$	$y$
1	5
2	3
3	3
4	1

$$y = x^2$$

$$x^2 + y^2 = 1$$

2. So what exactly is a **function**?
2. Which graph best matches each of the following stories? Write a story for the remaining graph.
- (a) I had just left home when I realized I had forgotten my books, so I went back to pick them up.
- (b) Things went fine until I had a flat tire.
- (c) I started out calmly but sped up when I realized I was going to be late.



3. Residents in the town of Maple Grove who are connected to the municipal water supply are billed a fixed amount monthly plus a charge for each cubic foot of water used. A household using 1000 cubic feet was billed \$40, while one using 1600 cubic feet was billed \$55.

- (a) What is the charge per cubic foot?  
 (b) Write an equation for the total cost of a resident's water as a function of cubic feet of water used.

- (c) How many cubic feet of water would lead to a bill of \$100?

4. Match the graphs in the figure with the following equations. (Note that the  $x$  and  $y$  scales may be unequal.)

(a)  $y = -2.27x$

(d)  $y = 0.1x - 27.9$

(b)  $y = 20.01 + 1.01x$

(e)  $y = -5.7 - 200x$

(c)  $y = 27.9 - 0.1x$

(f)  $y = x/3.14$

